Section I: LAER/BACT Determination for Application No. 273236

Basic Equipment or Process: Spray Booth

1. Basic Equipment

1a. Manufacturer: Binks, Bleeker Bros., Beattie

1b. Type: Dry Filter

1c. Model: Not Applicable

1d. Style: 6-Enclosed Conveyorized Spray Booths

1e. Types(s) of Parts Coated

Military Ordnance

1f. Types of Coating/Adhesive/Solvent Used

High VOC Primer, Pretreatment

Coatings, and Topcoats

1g. Applicable AQMD Regulation XI Rules

Rule 1107 – Coating of Metal Parts and Products

1h. Cost

Unknown

Source of Cost Data:

2. Basic Equipment Rating/Size – Particulate Equipment

2a. Size/Dimension/Capacity

6-Conveyorized Spray Booths

2-8’ W. x 6’ 8" L. x 7’-6" H.

2-8’ W. x 5’ L. x 6’-10" H.

1-12’ W. x 5’ L. x 7’ H.

1-1’ 6" W. x 2’-2" L. x 5’-4" H.

2b. Blowers

1-50 H.P., Venting 6 Booths

and 5 Small Ovens

2c. Total Flow Rate: 7500

2d. Filters

4-Booths with 8-20" x 20" Filters each

1-Booth with 7-20" x 20" Filter

1-Booth with 1-20" x 25" Filter

2e. Normal Operating Condition

8 hr/day, 5 day/wk

3. Company Information

3a. Name: US Ordnance

3b. Address: 9236 East Hall Rd

City: Downey

State: CA

Zip: 90241

3c. Contact Person: Dodwel De Silva

3d. Phone No.: (310) 904-7974

4. Permit Information

4a. Agency

South Coast AQMD

4b. Agency Contact Person

Bill Milner

4c. Phone No: (909) 396-2553

4d. Permit to Construct Information

P/C No.: 273236

Issuance Date: 1/24/92

4e. Start-Up Date: January 1994

4f. Permit to Operate Information

P/O No. D96362

Issuance Date: 2/13/96

5. Emission Information

5a. Permit Limit

5a1. Permit Limit

VOC: 30 lb/day

5a2. BACT/LAER Determination

The BACT/LAER determination for this application is a regenerative thermal oxidizer.

5b. Control Technology

5b1. Manufacturer/Supplier

Adwest Technologies, Inc.

1175 N. Van Horne Way

Anaheim, CA 92806-2506

(714) 632-9801

5b2. Description: Name of Control(s):

Thermal oxidizers operate on the basis that high temperature, proper residence time, and thorough mixing of the VOC laden air stream will thermally convert VOCs into carbon dioxide and water vapor. This regenerative variety takes advantage of the retention of heat by a gravel bed. This system is preheated by electrical heating elements to 1600 degrees Fahrenheit and raised to 1700 degrees Fahrenheit by a small natural gas burner. Temperatures are sustained by the latent heat of combustion of the inlet VOCs. As the VOCs are destroyed in the first bed, hot combustion gases are routed to a second bed (or chamber) where heat is transferred to the gravel media contained therein. The airflow is alternated between the first chamber and the second chamber every few seconds, which acts to provide a heat recovery rate about 95%. Because of the high heat recovery of such systems, operating costs are reduced because the inlet VOC stream supplies enough heat, when combusted, to sustain elevated temperatures. An hour "ramp time" (bed preheat time) is normally sufficient to achieve proper combustion temperature with the addition of VOCs at 25 ppm or more concentration. Destruction

efficiencies are typically at least 97%.

5b3. Control Equipment Permit Application Data

P/C No .: Not Applicable
P/C Issuance Date:
P/O No.: Not Applicale
P/O Issuance Date:

5b5. Warranty

Unknown

5b7. Secondary Pollutant

Regenerative thermal oxidizers create air contaminants that are different from pollutants for which they are required to abate. These contaminants include, but are not limited to, volatile organic compounds, (VOC), nitrogen oxides (NOX), sulfur oxides (SOX), carbon monoxides (CO), and particulate matters (PM10).

5b9. Limitations

Regenerative thermal oxidizers should not be used to control chlorinated compounds because of potential fouling of the ceramic beds by particulate contaminants.

5b11. Operating History

Operating since January 1994.

5b13. Source Test Conditions/Performance Data

The source test was performed at the following conditions:

Inlet flow rate: 7,500 dscfm

5b4. Waste Air Flow to Control Equipment

Flow Rate: 7500

Actual VOC Loading: 65

Inlet Blower: 50 H.P. Venting 6 Booths and 5 Small Ovens

5b6. Primary Pollutant

This technology is used to reduce VOC emissions from the spray booths.

5b8. Space Requirement

500 square feet

5b10. Location of Prior Demonstration & Agency
Facility: Not Known Contact Person: Not Known
Phone Number: Not Known Agency: Not Known

Address: Not Known Permit Number: Not Known
Contact Person: Not Known

5b12. Source Test/Performance Data Analysis

Date of Source Test: 11/24/94
Capture Efficiency: 99.00%
Destruction Efficiency: 97.60%
Overall Efficiency: 96.60%

5c. Cost

5c1. Control Equipment Cost

Capital: 200,000

Installation: Unknown

Capital + Installation: Unknown

5c2. Annual Operational/Maintenance Cost

Unknown

Source of Cost Data:

Source of Cost Data:	
5d. Demonstration of Compliance **5d1.** Date of Field Evaluation 11/24/93 **5d3.** Compliance Demonstration See the discussions on Performance Tests and Performance Test Load in Items (5b12) and (5b13) **5d5.** No. of Violations None	**5d2.** AQMD Staff Performing Field Evaluation Engineer's Name: Bill Milner Inspector's Name: **5d4.** Variance No. of Variances: 0 Causes: **5d6.** Frequency of Maintenance Not Known
6. Comment	